

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re: Patent Application of Charles A. Eldering et al.

Conf. No.: 1665 : Group Art Unit: 2423
Appln. No.: 10/759,620 : Examiner: CHIN, Ricky
Filing Date: 16 JANUARY 2004 : Attorney Docket No.: T708-14
Title: Advertisement Management System for Digital Video Streams

**APPELLANTS' BRIEF IN SUPPORT OF THE APPEAL TO THE BOARD OF PATENT
APPEALS AND INTERFERENCES**

In response to the Final Rejection dated June 21, 2011, and the Notice of Panel Decision from Pre-Appeal Brief Review dated November 1, 2011, Applicants hereby submit an Appeal Brief in accordance with 37 C.F.R. §41.37 for the above-referenced application.

(A) REAL PARTY IN INTEREST

The real party in interest is Prime Research Alliance E., Inc., the Assignee of record, which is a wholly owned subsidiary of a privately-owned, non-publicly traded company.

(B) RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, judicial proceedings or interferences known to Appellant, Appellant's legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

(C) **STATUS OF CLAIMS**

Claims 2, 4, 9, 19 – 21 and 24 are canceled.

Claims 1, 3, 5 – 8, 10 – 18, 22 – 23 and 25 are pending, rejected and are appealed.

(D) STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection.

(E) **SUMMARY OF CLAIMED SUBJECT MATTER**

The currently pending independent claims in this application are claims 1, 22 and 25. A concise explanation of each independent claim, with reference to the specification follows below. Independent claim 1 recites:

A method for managing selection and insertion of advertisements, the method comprising:

determining an avail bandwidth and subscriber characteristics for an advertisement opportunity within a program stream;

receiving, from a plurality of advertisers, a plurality of requests for advertisement presentation, each request associated with an advertisement and including a maximum bid, advertisement characteristics comprising intended target market characteristics and minimum bandwidth requirements, wherein the minimum bandwidth requirements identify a required amount of bandwidth available within the program stream for the advertisement to be inserted, wherein each of the plurality of requests may be fulfilled by inserting the associated advertisements into one of a plurality of available advertisement opportunities;

selecting a targeted advertisement from the plurality of requests for insertion into the advertisement opportunity based at least in part on the maximum bid, the minimum bandwidth requirements and a correlation between the intended target market characteristics and the subscriber characteristics, wherein a price for inserting the targeted advertisement is calculated based on the correlation; and

compressing, based at least in part on the avail bandwidth, the selected targeted advertisement such that the minimum bandwidth requirements are satisfied.

Independent claim 1 recites a method of managing selection and insertion of advertisements. *See*, for example, Figs. 1 and 9 and ¶¶ 1 – 15 of the specification. The method includes determining an avail bandwidth (*See*, for example, ¶¶ 10 – 11 and 39 – 45) and subscriber characteristics (*See*, for example, ¶¶ 10, 13, 31 – 32 and 39 – 45) within a program stream. A plurality of requests for advertisement presentation are received from advertisers (*See*, for example, Figs. 1 and 9 and ¶¶ 10 – 11, 30 – 32, 78 and 92) each request associated with an advertisement and including a maximum bid (*See*, for example, ¶¶ 81 – 82), advertisement characteristics comprising intended target market characteristics and minimum bandwidth requirements (*See*, for example, ¶¶ 10 – 11, 31 – 32, 40 – 45, 78 and 92). The minimum bandwidth requirements identify a required amount of bandwidth available within the program stream for the advertisement to be inserted. *See*, for example, ¶¶ 10, 39, 41, 78 and 92. The requests may be fulfilled by inserting the associated advertisements into one of a plurality of available advertisement opportunities. *See*, for example, Figs. 1, 9 and 10 and ¶¶ 14 and 82 – 83.

Targeted advertisements from the plurality of requests are selected for insertion into the advertisement opportunity based at least in part on maximum bid (*See*, for example, Figs. 1 and 9 and ¶¶ 13, 38 and 81 – 82), the minimum bandwidth requirements (*See*, for example, Figs. 1 and 9 and ¶¶ 13, 38 and 74 – 76) and a correlation between the intended target market characteristics and the subscriber characteristics (*See*, for example, Figs. 1 and 9 and ¶¶ 72 – 77). The price for inserting the targeted advertisement is based on the correlation. *See*, for example, Figs. 1 and 9 and ¶¶ 72 – 77.

The selected targeted advertisements are compressed, based at least in part on the available bandwidth, such that the minimum bandwidth requirements are satisfied. *See*, for example, Figs. 1 and 10 and ¶¶ 10 – 11, 14, 38 – 45, 51, 78, 82 – 84 and 98.

Independent claim 22 recites:

A computer implemented method for managing selection and insertion of advertisements into a program stream, the method comprising:

receiving, at a first computing device, a program stream having a time varying bit rate and at least one advertisement insertion opportunity, and wherein the at least one advertisement insertion opportunity has an advertisement insertion opportunity bit rate and subscriber characteristics associated therewith;

receiving, from a plurality of advertisers, a plurality of requests for advertisement presentation, each request associated with an advertisement and comprising a maximum bid, intended target market characteristics and a minimum acceptable bit rate, wherein each of the plurality of requests may be fulfilled by inserting the associated advertisements into one of a plurality of available advertisement opportunities;

selecting a targeted advertisement for insertion from the received plurality of requests based at least in part on the received maximum bids and a determination that the intended target market characteristics have a sufficient level of comparison to the associated subscriber characteristics; and

compressing the selected targeted advertisement when the minimum acceptable bit rate is less than the advertisement insertion opportunity bit rate.

Claim 22 is similar to claim 1, however the programming stream has a time-varying bit rate (*See*, for example, Fig. 9 and ¶¶ 47 – 58, 83 – 86), and instead of referring to the “available bandwidth” and “minimum bandwidth requirements,” a “advertisement insertion opportunity bit rate” and “minimum acceptable bit rate” are used, respectively (*See*, for example, Figs. 1 and 9 and ¶¶ 13, 38 and 74 – 76).

Independent claim 25 recites:

A method for selecting advertisements for insertion into a program stream having a plurality of advertisement opportunities, the method comprising:

determining an avail bandwidth and subscriber characteristics for a first advertisement opportunity in the program stream;

receiving, from a plurality of advertisers, a plurality of advertisement presentation requests, each request corresponding to a desired advertisement and including a maximum bid and advertisement characteristics for the desired advertisement, the advertisement characteristics comprising intended target market characteristics and minimum bandwidth requirements;

selecting a targeted advertisement from the plurality of advertisement presentation requests based at least in part on the maximum bid and a correlation between the intended target market characteristics and the subscriber characteristics, wherein a price for inserting the winning advertisement is calculated based on the correlation; and

compressing, based at least in part on the avail bandwidth, the targeted advertisement such that the minimum bandwidth requirements are satisfied.

Claim 25 is similar to claim 1, however the minimum bandwidth requirements are part of the advertisement characteristics, and there is a broader recitation of the minimum bandwidth requirements.

(F) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review in this appeal:

- Whether claims 1, 3, 5 – 8, 10 – 18, 22, 23 and 25 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,661,516 to Carles (“Carles”), in view of U.S. Patent No. 5,652,615 to Bryant (“Bryant”), U.S. Patent Application Publication No. 2006/0041921 to Hane (“Hane”), U.S. Patent No. 6,487,721 to Safadi (“Safadi”), and U.S. Patent No. 5,754,787 to Dedrick (“Dedrick”).

(G) **ARGUMENTS**

(1) Rejection under 35 U.S.C. §103(a) over Carles, Bryant, Hane, Safadi and Dedrick

(a) Claims 1, 3, 5 – 8, 10 – 18, 22 – 23 and 25

The Examiner has not established a *prima facie* case of obviousness to support the rejection of claims 1, 3, 5 – 8, 10 – 18, 22 – 23 and 25 because (i) the proposed combination of references would be inoperable and/or change the principle of operation of such references; (ii) the Examiner has misapplied the law; (iii) all features of the claims are not taught by the proposed combination; (iv) there is no apparent reason to combine the references, and thus, the proposed combination does not make “common sense”; and (v) the Examiner has improperly applied written description and new prior art rejections.

(i) **The Combination of Carles, Bryant, Hane, Safadi and Dedrick is Inoperable**

As explained in the Statement in Support of Request for Pre-appeal Brief Conference, filed November 21, 2011 (“Statement”) and the Request for Reconsideration, filed March 24, 2011 (“Request for Reconsideration”), the proposed combination of Carles, Bryant, Hane, Safadi and Dedrick is inoperable. MPEP § 2143.01(V) instructs that, “[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is *no* suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), emphasis added. Furthermore, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are *not sufficient* to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959), emphasis added.

Bryant and Hane

The Examiner’s rejection relies on directly opposing teachings from the various prior art references, with little attention to the substantive differences of the features actually disclosed. For example, the nature of bandwidth allocation in Bryant relates to the final bandwidth necessary to deliver a program stream. The invention in Bryant, “recognizes that the bandwidth required to transport the program can vary with respect to the content.” Bryant, col. 4, ll. 57 – 59. The portion of Bryant relied on by the Examiner for “minimum bandwidth” is respect to “fill segments.” Final Office Action dated June 21, 2011 (“Final Office Action”), p. 8. As recognized by the Examiner and discussed in Bryant, fill segments

may be “1.5 Mb/s without substantially impacting the perceived quality,” while other video may need more. Bryant, col. 4, l. 64 – col. 5, l. 9. As such, the Examiner contends that Bryant discloses “minimum bandwidth requirements ... identify a required amount of bandwidth available within the program stream for the advertisement to be inserted.” Final Office Action, p. 9. In other words, **the “minimum bandwidth” in Bryant is the bandwidth required to be available in a stream to effectively transport a video segment (e.g., advertisement) with the stream.** Notably, the Examiner concedes that Bryant (in combination with Carles) does not teach, “receiving, from a plurality of advertisers, a plurality of requests for advertisement presentation ...comprising ... minimum bandwidth requirements,” or, “selecting a targeted advertisement ... based at least in part on ... the minimum bandwidth requirements.” Final Office Action, p. 9.

In view of the deficiencies of Bryant, the Examiner relies on Hane, which teaches a completely different concept for what the Examiner regards as “minimum bandwidth requirements”. In attempting to show how Hane teaches the selection of a targeted advertisement based on minimum bandwidth requirements, the Examiner points to “an enterprise [booking] a small amount of bandwidth at a specific time,” a buyer of an advertisement entering “parameters” (such as “time frame, markets, length of advertisements, preemptability”), and determining “the technical capability and the availability and the available inventory” to satisfy an ad request and prioritizing bandwidth. Hane, ¶¶ 45, 52, 54 and 81. In other words, in Hane **the minimum bandwidth is bandwidth reserved by an enterprise.** However, none of these teachings of Hane bear any resemblance to the “minimum bandwidth requirements” (i.e., the bandwidth required to transport the video segment) in Bryant.

A significant problem with the Examiner’s rejection is that Bryant and Hane thus result in two divergent ideas of what constitutes a “minimum bandwidth”. In Bryant, minimum bandwidth is bandwidth required to transport the program or a video segment; in Hane, the minimum bandwidth is the amount of bandwidth an enterprise reserves. Despite the discontinuity, the Examiner combines these divergent teachings, asserting that such combination would somehow be “obvious.”

Applicants submit that the proposed combination of concepts related to minimum bandwidth would not be obvious under any sense of the term, patent law or otherwise. More importantly, these two completely separate concepts could not possibly be used together. That is, if the receipt of minimum bandwidth includes the receipt of the bandwidth required for a program segment to be transported (i.e., Bryant), it cannot also include the bandwidth that an enterprise reserves (i.e., Hane); the two concepts have nothing in common. Bryant describes a technical requirement of a program segment, while Hane describes a business decision regarding the purchase of bandwidth; the two concepts are not interchangeable.

Bryant and Dedrick

The Examiner acknowledges that even with the highly divergent teachings of Bryant and Hane, all elements of the claims with respect to minimum bandwidth are still not taught. The Examiner therefore adds yet another reference to support the rejection, since, “the combination does not explicitly teach of wherein [sic] the plurality of requests associated with an advertisement includes minimum bandwidth requirements wherein the minimum bandwidth requirements identify a required amount of bandwidth available within the programming stream for the advertisement to be inserted.” Final Office Action, p. 1). The Examiner thus relies on Dedrick as teaching this feature. In Dedrick, the bandwidth is discussed as having “multiple parallel bandwidth diverse transport channels.” Dedrick, Abstract. “The publisher/advertiser 18 inserts the desired minimum and maximum bandwidth ... for those transport mechanisms.” Dedrick, col. 13, ll. 16 – 19. “These cost and bandwidth requirement parameters are taken by the smart router 31 to route the different media types of the object through the transport mechanism which produces the best fit in terms of ... bandwidth requirements.” Dedrick, col. 13, ll. 1 – 5. Dedrick finds a transport channel which is best suited to carry the media. Thus, the Examiner has applied another substantially different view of bandwidth, minimum bandwidth and bandwidth allocation to assert that the claimed subject matter is obviousness.

A comparison of Bryant and Dedrick yields two starkly incompatible systems. In Bryant, a static amount of bandwidth exists with a single signal. To accommodate this, “the required signaling rate for the ‘fill’ can be reduced to, for example, 1.5 Mb/s,” in an effort to fit more information into the single signal. Bryant, col. 4, ll. 64 – 67. In Dedrick, there are a plurality parallel bandwidth diverse transport channels. To transport an element (e.g., a media file), one of the bandwidth diverse transport channel is selected with the appropriate bandwidth for the element. As such, while Bryant searches for a segment having a bandwidth that fits into the remaining portion of the only existing transport mechanism, Dedrick searches among a plurality of bandwidth diverse transport mechanisms to transmit the media element regardless of the bandwidth. **These two paradigms are directly opposite and the combination thereof would render such combination inoperable.** A combination of these two references would thus yield a nonsensical and inoperable system that is unsatisfactory for its intended purpose. If a plurality of bandwidth diverse transport channels (i.e., Dedrick) was used to modify Bryant, Bryant would no longer operate to find “fill” segments to insert into the remaining (i.e., unutilized and available) portion of the stream. This is because the selected transport stream in Dedrick would leave no remaining bandwidth and would thus have no need for a fill segment to insert into the selected transport channel.

Bryant, Hane, Dedrick and Carles

The Examiner also proposes to combine the three different bandwidth concepts of Bryant, Hane and Dedrick with Carles. Carles teaches inserting advertisements based on a previously created schedule.

Bryant attempts to utilize all bandwidth in a programming stream and group advertisements to utilize such bandwidth in real time. Hane teaches an electronic exchange for avail sales that will “immediately determine” whether a particular advertisement should be inserted. Hane, ¶ 68. Therefore, if the methodology of Carles were to attempt to insert advertisements in a manner to utilize all of the bandwidth in the stream (i.e., Bryant), Carles **could not possibly utilize** a predefined scheduled. Similarly, if the methodology of Carles were to attempt to “immediately determine” which advertisement is being used (i.e., Hane), it **could not possibly** have a predefined schedule. That is, Bryant and Hane would require alterations to Carles’ previously created, predefined schedule at every insertion opportunity, thereby defeating the explicitly stated purpose of Carles’ advertisement schedule in the first place. As such, the proposed combination is improper since any modification of Carles’ teachings by Bryant and/or Hane would effectively change the principle of operation of Carles.

Applicants respectfully submit that the proposed combination of references yielding an inoperable combination results from the Examiner failing to read the prior art references “as a whole” as required by MPEP § 2143.03(VI). Rather, the Examiner has admittedly only considered small portions of Bryant, Hane and Dedrick in asserting the proposed combination. First, the Examiner states that “the *aspect* of Bryant and Hane relied upon are *mere* teachings used to enhance ...” the teachings of Carles Final Office Action, p. 6, emphasis added. The Examiner continues that “Bryant is *merely* relied upon for the teaching of determining an avail bandwidth ...” *Id.* The Examiner concludes that by only looking at these isolated teachings of the references, “the modifications would in no way effect the operation and system of Carles.” *Id.* at pp. 6 – 7. In making this argument, the Examiner has overtly ignored the MPEP by “merely” reading certain “aspects” of the prior art, rather than considering them in their “entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” However, as explained above, reading the entire secondary references and applying the proposed modifications (including the portions which the Examiner chooses to ignore) no doubt render the proposed combination impossible and/or leave the primary reference inoperable.

The Examiner’s failure to read the references as a whole is particularly problematic since the Examiner applies a combination of five references in asserting that Applicants’ claims are obvious. The difficulty in determining what results from such a combination does not allow the Examiner to only consider small portions of the prior art while ignoring the complete teachings of such references. It is therefore unsurprising that the Examiner’s reading of only small portions of such a multitude of prior art references and an assumption that the combination makes sense, that an analysis of the entire references renders a highly confusing and inoperable combination.

Because the proposed combination of references would be inoperable and/or change the principle of operation of one or more of such references, the Examiner’s proposed combination is improper.

Accordingly, the Examiner's proposed combination is insufficient to sustain an allegation of *prima facie* obviousness.

(ii) The Examiner Has Misapplied the Law

The Examiner continues to incorrectly apply the law in making the 35 U.S.C. § 103 rejection. The misapplication of law is particularly relevant in view of the complexity of the five-reference prior art rejection. In the Final Office Action, the Examiner's chief argument is that Applicants have attempted to show non-obviousness by attacking the references individually, relying on *In re Keller*. See, Final Office Action, p. 2. However, not only have Applicants have not attacked the references individually, but the Examiner has completely misapplied *Keller*.

In making a §103 rejection, the burden is on the Examiner to show that, "the prior art references, when combined, must teach or suggest all of the claim limitations." 35 U.S.C. § 103. *In re Keller* does not change the longstanding requirement that the combination of the references must teach all elements of the claim. Rather, *In re Keller* stands for the proposition that, where a combination of references does teach all the elements of the claimed invention, then a rejection under 35 U.S.C. §103 cannot be overcome by attacking the references individually.¹ However, as previously explained in the prosecution history and again in detail below, in the instant case, the combination of the references does not teach all elements of the claim.

In the Statement and the Request for Reconsideration, Applicants explained that the combination of prior art references does not teach all elements of the independent claims. Statement, pp. 5 – 6; Request for Reconsideration, pp. 9 – 11. Both Applicants and the Examiner agree that "the combination of Carles, Bryant, Hane, and Safadi ... does not explicitly teach," this portion of the claim; however, the Examiner instead relies on Dedrick to teach the missing element(s). Final Office Action, pp. 12 – 13; Non-Final Office Action dated September 28, 2010, pp. 8 – 9. As Applicants correctly point out that Dedrick does not teach the portion of the claim for which the Examiner relies on Dedrick, Applicants have effectively shown that the combination of the references does not teach all elements of the claims.

Rather than a substantive response to Applicants' arguments, the Examiner instead argues that Applicants have improperly attacked the references individually relying on *In re Keller*. See, Final Office

¹ In *In re Keller*, the invention was for a pace maker with a digital timer. The rejection was to Keller, Berkovits and Walsh. All elements except for the use of a digital timer were taught by Keller and Berkovits, with the timer being taught by Walsh. See, *In re Keller* at 421 – 422. "Appellant does not argue that any features of the rejected claims other than the use of digital timing are not disclosed in Keller and Berkovits. Thus, the sole issue regarding the prior art rejections is essentially whether the references, taken collectively, would have suggested the use of digital timing in a cardiac pacer to those of ordinary skill in the art at the time the invention was made." *In re Keller* at 424. The Appellant focused that Walsh was not known to be used for the heart. *In re Keller* at 424 – 425. The Court noted that since the digital timer of Walsh was to be used in combination with Keller and Berkovits, a showing that Walsh alone could not be used was insufficient to rebut obviousness as "one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references" *In re Keller* at 426. However, there was no argument that all elements were not taught by the references.

Action, p. 2). However, in *In re Keller* the argument was premised on an agreement that all elements are taught by the combination of references, with the disagreement being whether the combination of the features of such references would teach the claimed invention or otherwise render the invention obvious. Accordingly, ***In re Keller* has been misapplied and has no bearing on the current application.** In view of this, for the reasons discussed at length during the prosecution history and again below, Applicants have established that the Examiner's proposed combination of references does not teach or suggest all features of the claimed subject matter.

(iii) **The Combination Does Not Teach All Elements of the Claims.**

When making a rejection under 35 U.S.C. § 103, the prior art references, when combined, must teach or suggest all of the claim limitations. *See*, MPEP 2143.03. Further, MPEP 2141.02 instructs that, "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." Notwithstanding Applicants' previous and current arguments with respect to the impropriety of the Examiner's combination of references, the combination of Carles, Bryant, Hane, Safadi and Dedrick, even if proper, does not teach or suggest all of the features of Applicants' claims.

The combination of Carles, Bryant, Hane, Safadi and Dedrick does not teach or suggest, "compressing, based at least in part on the avail bandwidth, the selected targeted advertisement such that the minimum bandwidth requirements are satisfied," as recited in independent claim 1. The Examiner relies on Safadi for this teaching, contending that, "the commercial may be compressed as to enable rate adaptation such that the commercial content fits the bandwidth allocated for the program to which the commercial belongs." Final Office Action, p. 11. However, as discussed at least in the Statement and the Request for Reconsideration the Examiner has misread Safadi. Additionally, even if the Examiner's interpretation of Safadi is correct, the "compressing" in Safadi results in matching the advertisement bandwidth to the bandwidth allocated for the ***program*** into which the advertisement will be inserted. In contrast, in claim 1, the advertisement is compressed such that the **minimum bandwidth requirements of the advertisement or advertiser are satisfied.**

The Examiner's response initially appears to agree with Applicants that, "Safadi teaches that the commercial ... may be compressed such that the contents fits the bandwidth allocated for the ***program.***" Final Office Action, p. 4, emphasis added. Independent claim 1 recites, "compressing, based at least in part on the ***avail*** bandwidth, the selected targeted advertisement such that the minimum bandwidth requirements [of the advertisement] are met." However, compressing an advertisement to a program's bandwidth (i.e., Safadi) simply does not teach this feature. The Examiner's failure to recognize that a program bandwidth is not the same as an avail bandwidth is instructive. That is, old technology, such as

Safadi, operates in a system where an avail bandwidth need not be considered, since a traditional television would not vary the avail bandwidth at all, let alone with respect to the program bandwidth.² In contrast, the method of claim 1 considers an “avail bandwidth,” that is independent of (e.g., need not be the same as) the program bandwidth. In fact, if the avail bandwidth is always the same as the program bandwidth, as required for the Examiner’s assumption, there would be no need to determine an “avail bandwidth ... for an advertisement opportunity within a program stream,” since the only data needed would be the bandwidth of the program stream. Accordingly, the compression in claim 1 is based at least in part on the avail bandwidth. Since claim 1 specifically recites an avail bandwidth and a minimum bandwidth for an advertisement related to bidding, the difference between an avail bandwidth and a program bandwidth, and how they are applied to the features of the claimed method, is not inconsequential. In fact, the technology recited in claim 1 would be of no use with a compression system directed to a program (i.e., Safadi) as opposed to an avail.

The core of the Examiner’s response suggests that the recitation of, “such that the minimum bandwidth requirements are satisfied,” in claim 1 has no meaning at all. The Examiner argues that this feature is satisfied, since “any time the selected advertisement is compressed to fit the avail of the bandwidth and also matches the minimum bandwidth requirement ... the compression would satisfy the minimum bandwidth requirement.” Final Office Action, p. 4. Applicants disagree that the claim language suggests a coincidental relationship – “compressing ... the selected targeted advertisement such that the minimum bandwidth requirements are satisfied,” is an explicit action that the minimum bandwidth requirements be met – not a coincidence as suggested by the Examiner. Even if the claim were to permit a coincidental relationship, there is no teaching or suggestion in Safadi that a minimum bandwidth requirement will ever be met, since Safadi does not even have minimum bandwidth requirements to coincidentally meet. In other words, the Examiner cannot point to a single instance in Safadi where the compression occurs, “such that the minimum bandwidth requirements are satisfied,” because Safadi does not discuss minimum bandwidth at all.

Furthermore, the Examiner’s allegation of what constitutes minimum bandwidth requirements from the other references, does not lend itself to needing compression. “Carles does not explicitly teach of [sic]determining an avail bandwidth and minimum bandwidth requirements,” and therefore has no bearing on the claimed element. Final Office Action, p. 8. In Bryant, a fill segment may have lower bandwidth requirements than the entire stream, however these bandwidth requirements are due to “pre-processing.” Bryant, col. 4, l. 65. The pre-processed fill segments are allocated to fit exactly into the

² Safadi’s disclosure of, “new commercial insertion capability [that] can be added to existing uplink and headend equipment in a backward compatible manner,” (Safadi, Abstract) is directed solely to traditional television and has no bearing on a variable avail bandwidth.

“allocated bandwidth of the circuit carrying the signal [that] is 6 Mb/s.”³ Bryant, col. 5, ll. 5 – 9. Since the segments are **pre-processed** and fit exactly into a set bandwidth signal, they **do not need to be compressed**. If they were compressed below their size, they would have a bandwidth smaller than the size that the Examiner views as the “minimum bandwidth,” and would therefore no longer meet the what the Examiner views as the minimum bandwidth requirement. Hane’s system allows an advertiser to purchase a specific bandwidth (§ 52), and will “determine[] whether both the technical capability and the available inventory will satisfy” the request (§ 54). In the event of a bandwidth problem, the system will “set priorities for the use of available bandwidth (§ 81). As such, much like Bryant there is **no need to compress** a segment. Since the advertiser has purchased a specific bandwidth, compression would destroy the contract and the purpose of the invention to compress in the manner claimed. In Dedrick, “multiple parallel bandwidth diverse transport channels,” are used. Dedrick, Abstract. If one of the “parallel bandwidth diverse transport channels,” has too high of a bandwidth, a different parallel transport channel is selected, rather than compressing the stream. Since the Examiner views the header information with the bandwidth information as the “minimum bandwidth requirement,” a compression of this stream in any manner would, by definition, bring the bandwidth below the minimum bandwidth and therefore would not satisfy the requirement as claimed. As can plainly be seen, using what the Examiner considers the minimum bandwidth requirement in any of Bryant, Hane or Dedrick, a compression of any kind would bring the bandwidth **below** the minimum bandwidth. As such, the compression would not be “such that the minimum bandwidth requirements are satisfied,” as recited in claim 1.

In view of the foregoing, a combination of any, or all, of these references with Safadi, would still not yield a compression such that the minimum bandwidth requirements are met. Accordingly, the proposed combination of references does not teach or suggest all of the features of independent claim 1. Independent claims 22 and 25 recite subject matter similar to independent claim 1. Thus, for reasons similar to those discussed above, the proposed combination does not teach or suggest all features of independent claims 22 and 25.

(iv) There is No Apparent Reason to Combine the References

In KSR, the Court stated that it was “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *KSR Int’l Co. v. Teleflex Inc.* 127 S. Ct. 1727 (U.S. 2007). The Court noted, “[t]o facilitate review, this analysis should be made explicit.” *See, KSR*. It is important to determine whether there was an “apparent

³ The Examiner argues that Bryant, “discloses that for a 6Mb/s signal, up to 3.0 Mb/s or four 1.5 Mb/s fill segments can be concurrently Broadcast. Hence, in order to be able to allocate the bandwidth necessary to fill the fill segments, the bandwidths of the fill segments must be first determined to see if they would fit the required bandwidth of the signal in combination with the other fill segments if concurrently broadcast. Therefore, fill segments which are too big and use up too much bandwidth cannot fit with other fill segments concurrently cannot be used making selection based on comparing avail bandwidth to minimum bandwidth requirements necessary.” Final Office Action, pages 8 – 9.

reason to combine the known elements in the fashion claimed by the patent at issue.” *See, KSR*. Therefore, the Examiner must identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed. *KSR* additionally states that the proposed combination should make “common sense.” *See, KSR*.

In addition to the reasons set forth above with respect to inoperability of the proposed combination (which yields the conclusion that there is no reason to combine references that could not operate together), the Examiner’s alleged rationale for adding Safadi and Dedrick to the combination leaves little doubt that the proposed combination is improper under *KSR*.

With respect to Safadi, the Examiner argues that Safadi is added, “for the mere benefit of ensuring that the commercial content is able to fit within the allocated bandwidth of the avail thereby preventing overload.” Final Office Action, p. 12. However, the combination of Carles, Bryant and Hane – to the extent that it could operate – would have no risk of not fitting within the allocated bandwidth or having an overload. As noted by the Examiner, the addition of Bryant to Carles would “allow a quality and successful insertion of a targeted advertisement to occur by preventing overflow and making efficient use of the available bandwidth.” Final Office Action, p. 9. As such, the addition of Safadi to the combination is completely unnecessary, as the Examiner’s own reasoning suggests that this task is already completed. Additionally, as discussed in detail above, none of Carles, Bryant or Hane needs or could be used with Safadi’s compression techniques. As such, there is no reason to combine Safadi with the other references.

With respect to Dedrick, the Examiner argues that it would have been obvious to include, “the parameter of minimum bandwidth requirements wherein the minimum bandwidth requirement identify a required amount bandwidth available within the program stream as taught by Dedrick as to better characterize an inserted advertisement to be inserted by the advertiser to a targeted customer.” Final Office Action, p. 13. However, the Examiner also argues that, “Bryant teaches of determining **an avail bandwidth and minimum bandwidth requirements**.” Final Office Action, p. 8. One of ordinary skill in the art would not find a reason to combine elements from Dedrick which are already contained in the other prior art references. Additionally, as discussed above, the actual combination of Bryant and Dedrick would be inoperable. It is not obvious to combine prior art references where the combination of such references would yield an inoperable system.

Since the Examiner has not provided a proper reason to combine the references, such a combination of references would not make “common sense”, and/or such a combination would not be made by one skilled in the art, the Examiner has not satisfied the required burden of *prima facie* obviousness.

(v) The Examiner Has Improperly Applied Written Description and New Prior Art Rejections

In the Final Office Action, the Examiner appears to issue a new rejection under 35 U.S.C. §112⁴ and/or a new prior art rejection.⁵ In addition to submitting that none of the claims are unpatentable in view of these apparent “rejections”, Applicants note that if either of these statements is intended to constitute a rejection, the Examiner has improperly issued a Final Office Action, since a Final Office Action is not appropriate “where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims, nor based on information submitted in an information disclosure statement.” MPEP 706.07(a). Applicants have previously noted that the Final Office Action was improperly issued, but the Examiner has ignored such comments. *See*, Statement, pp. 4 – 5.

Conclusion

In view of the foregoing, Applicants respectfully submit that the combination of Carles, Bryant, Hane, Safadi and Dedrick is improper since the combination is inoperable, lacks common sense, and the Examiner has not articulated a proper reason for the combination. Additionally, the references themselves are not properly combinable and the rejection is based on incorrect case law. Finally, but not insignificantly, the combination of references does not result in a teaching of all elements of Applicants' claimed subject matter, nor would it have been obvious to one skilled in the art to achieve the claimed subject matter in view of the proposed combination. Therefore, the Examiner has not met the burden of *prima facie* obviousness.

Accordingly, for the reasons detailed herein, independent claim 1, and all claims dependent thereon, including claims 3, 5 – 8 and 10 – 18, are allowable over the combination of Carles, Bryant, Hane, Safadi and Dedrick. As independent claims 22 and 25 have been rejected based on the same art and for substantially the same reasons, claims 22, 25, and dependent claim 23 (which depends from claim 22), are allowable over the combination of Carles, Bryant, Hane, Safadi and Dedrick.

For the reasons set forth above, Applicants submit that the rejection of claims 1, 3, 5 – 8, 10 – 18, 22 – 23 and 25 is in error, and that the application is in condition for allowance. Accordingly, Applicants respectfully request that the Board reverse the Examiner's rejections of claims 1, 3, 5 – 8, 10 – 18, 22 – 23 and 25 and remand this application for issue.

⁴ “...resulting in the minimum bandwidth requirement being satisfied could not be found anywhere in the applicants specification.” Final Office Action, page 4.

⁵ Noting that, “...if such limitations were present in applications specification, Hamilton, US 2009/0067510” could be relied upon. Final Office Action, pages 4-5.

(H) CLAIMS APPENDIX

1. A method for managing selection and insertion of advertisements, the method comprising:

determining an avail bandwidth and subscriber characteristics for an advertisement opportunity within a program stream;

receiving, from a plurality of advertisers, a plurality of requests for advertisement presentation, each request associated with an advertisement and including a maximum bid, advertisement characteristics comprising intended target market characteristics and minimum bandwidth requirements, wherein the minimum bandwidth requirements identify a required amount of bandwidth available within the program stream for the advertisement to be inserted, wherein each of the plurality of requests may be fulfilled by inserting the associated advertisements into one of a plurality of available advertisement opportunities;

selecting a targeted advertisement from the plurality of requests for insertion into the advertisement opportunity based at least in part on the maximum bid, the minimum bandwidth requirements and a correlation between the intended target market characteristics and the subscriber characteristics, wherein a price for inserting the targeted advertisement is calculated based on the correlation; and

compressing, based at least in part on the avail bandwidth, the selected targeted advertisement such that the minimum bandwidth requirements are satisfied.

2. (cancelled)

3. The method of claim 1, wherein said selecting a targeted advertisement includes selecting an advertisement having minimum bandwidth requirements less than or equal to the avail bandwidth.

4. (cancelled)

5. The method of claim 1, wherein said determining subscriber characteristics includes receiving node characteristics that are an aggregate of the subscriber characteristics for subscribers associated with a node.

6. The method of claim 1, wherein said determining subscriber characteristics includes receiving the subscriber characteristics from publicly available data.

7. The method of claim 6, wherein the publicly available data includes real estate records and tax assessment records.

8. The method of claim 1, wherein said determining subscriber characteristics includes receiving subscriber characteristics associated with a group of subscribers.

9. (cancelled)

10. The system of claim 1, wherein the intended target market characteristics include demographics.

11. The method of claim 10, wherein a probabilistic distribution is assigned to various demographic attributes.

12. The method of claim 1, further comprising inserting the compressed selected targeted advertisement into the avail.

13. The method of claim 12, further comprising delivering the compressed selected targeted advertisement to at least some subset of the subscribers.
14. The method of claim 13, wherein the subset includes individual subscribers.
15. The method of claim 13, wherein the subset includes a group of subscribers.
16. The method of claim 15, wherein the group of subscribers are generated based on connectivity.
17. The method of claim 13, wherein the subscribers include at least some subset of individuals, households, and groups.
18. The method of claim 1, wherein said determining includes determining the avail bandwidth for the advertisement opportunity within a program stream that is part of a multiplexed stream having a plurality of program streams, wherein the multiplexed stream is allocated a multiplex bandwidth and the multiplex bandwidth is divided among the plurality of program streams into program bandwidths, the program bandwidth allocated based on bit rate associated with program contents, and wherein the avail bandwidth is based on the bandwidth available in the multiplexed stream during the advertisement opportunity.
- 19 – 21. (cancelled)

22. A computer implemented method for managing selection and insertion of advertisements into a program stream, the method comprising:

receiving, at a first computing device, a program stream having a time varying bit rate and at least one advertisement insertion opportunity, and wherein the at least one advertisement insertion opportunity has an advertisement insertion opportunity bit rate and subscriber characteristics associated therewith;

receiving, from a plurality of advertisers, a plurality of requests for advertisement presentation, each request associated with an advertisement and comprising a maximum bid, intended target market characteristics and a minimum acceptable bit rate, wherein each of the plurality of requests may be fulfilled by inserting the associated advertisements into one of a plurality of available advertisement opportunities;

selecting a targeted advertisement for insertion from the received plurality of requests based at least in part on the received maximum bids and a determination that the intended target market characteristics have a sufficient level of comparison to the associated subscriber characteristics; and

compressing the selected targeted advertisement when the minimum acceptable bit rate is less than the advertisement insertion opportunity bit rate.

23. The method of claim 22, further comprising halting the insertion of the compressed targeted advertisement when the minimum acceptable bit rate is greater than the advertisement insertion opportunity bit rate.

24. (cancelled)

25. A method for selecting advertisements for insertion into a program stream having a plurality of advertisement opportunities, the method comprising:

determining an avail bandwidth and subscriber characteristics for a first advertisement opportunity in the program stream;

receiving, from a plurality of advertisers, a plurality of advertisement presentation requests, each request corresponding to a desired advertisement and including a maximum bid and advertisement characteristics for the desired advertisement, the advertisement characteristics comprising intended target market characteristics and minimum bandwidth requirements;

selecting a targeted advertisement from the plurality of advertisement presentation requests based at least in part on the maximum bid and a correlation between the intended target market characteristics and the subscriber characteristics, wherein a price for inserting the winning advertisement is calculated based on the correlation; and

compressing, based at least in part on the avail bandwidth, the targeted advertisement such that the minimum bandwidth requirements are satisfied.

(I) EVIDENCE APPENDIX

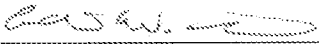
None.

(J) RELATED PROCEEDINGS APPENDIX

None.

Respectfully submitted,

Date: 11/2/11

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